

# Ceramic backing material

## Where are most weld defects found?

Most weld defects are found in weld roots. If access is available from only one side of the weld, the defects are usually a result of poor fusion. In two-side welds, the defects are usually slag inclusions that result from insufficient back grinding or gouging. Grinding and gouging are themselves costly and unpleasant procedures and, of course, the metal removed must be replaced by more weld metal. If defects are found, weld roots are the most difficult and expensive regions to repair.

## How can we minimise root defects ?

Since defect free fully penetrated root welds can be made only by highly qualified welders if no supporting backing is used, the Lincoln Electric LNB ceramic backing strips can be your answer. LNB products are ceramic backing strips that are attached to the back of weld roots. The ceramic is formulated to provide a molten surface contact that supports the weld root and breaks free when the metal cools. The backing is not permanent and is therefore permissible where permanent backing is not admissible, because of fatigue or corrosion.

## What are the major benefits of Lincoln Electric LNB backing materials?

- Weld roots can be made at higher currents, thereby ensuring good fusion.
- Quality of root welds is less dependent on welder skills.
- Minimised overhead welding. Deck welds can be made from above.
- Less re-positioning of work. Work pieces need not be moved to allow welding of the back of joints.
- Less defects. Better root fusion ensures lower defect levels.
- More tolerant of fit-up. The use of a bigger weld pool supported by the ceramic, allows larger and mis-matched gaps to be filled with sound weld metal.
- Purging with inert gas is not necessary to protect the back of the weld root.

## What are the features of Lincoln Electric LNB materials?

- LNB products do not absorb moisture. They are made from high density, non-hygroscopic ceramics. In combination with Lincoln Electric low hydrogen consumables, they give maximum security when welding materials are susceptible to hydrogen induced cracking.
- LNB materials are inert and do not introduce undesirable elements into the weld pool.
- LNB products control weld back reinforcement. The weld metal that cools in contact with the ceramic is smooth, slightly convex and it usually needs no further cleaning or grinding.
- LNB products are easy to attach to the back of welds, and they will withstand normal preheat temperatures. Either aluminium adhesive tape or spring steel clips hold the ceramic in firm contact with the joint. The weld metal is not adversely effected by its contact with the ceramic strips.
- LNB strips can be used with many materials, like structural steels, low-alloy and stainless steels as well as many processes such as stick electrodes and most standard solid wires for CO<sub>2</sub> and mixed gas metal arc welding. In combination with Outershield, Cor-A-Rosta or other flux cored wires and Innershield self shielded wires, as well as submerged arc processes, they add substantially to the already high productivity.
- LNB ceramic backing strips are made in a variety of shapes and sizes that are suitable for most welds.
- No release of disagreeable gases during welding.

# Ceramic backing material

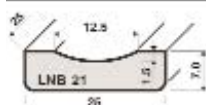
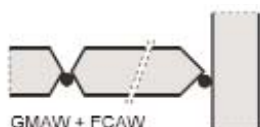
## Product range



Strip length: 600 mm

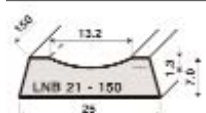
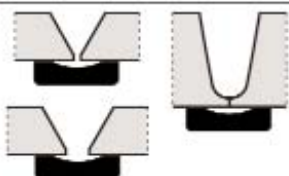
Product	item	pcs/bx	mtr/bx
LNB 6	tape 640007	100	60
LNB 9	tape 640014	72	43.2
LNB 12	tape 640021	60	36

Mainly for mild steel. For general steel structures



Strip length: 600 mm

Product	item	pcs/bx	mtr/bx
LNB 21	tape 640083	56	33.6

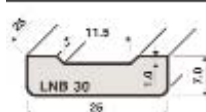


Strip length: 600 mm

Product	item	pcs/bx	mtr/bx
LNB 21 - 150	tape 640090	56	33.6
LNB 21 - 150	rail 640106	63	37.8

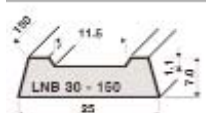
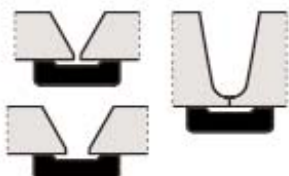
Strips can be used in metal rail.  
For fastening use magnetic clamps

To be used with LNM solid wires  
and metal cored wires like  
Outershield MC 710-H and MC 715-H



Strip length: 600 mm

Product	item	pcs/bx	mtr/bx
LNB 30	tape 640151	56	33.6

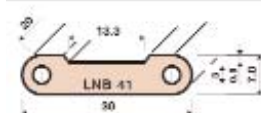


Strip length: 600 mm

Product	item	pcs/bx	mtr/bx
LNB 30 - 150	tape 640168	56	33.6
LNB 30 - 150	rail 640175	63	37.8

Strips can be used in metal rail.  
For fastening use magnetic clamps.

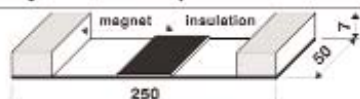
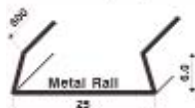
To be used with flux cored wires like  
Outershield and Cor-A-Rosta



LNB 40 - strip length: 600 mm  
LNB 41 - strip length: 1000 mm

Product	item	pcs/bx	mtr/bx
LNB 40	tape 640243	48	28.8
LNB 41	wire 640229	24	24

Elements are mounted on flexible wire.  
Suitable for pipe and cylindrical parts.  
Designed to bend easily.



Magnetic Clamp, Item 640236